

REMARKS

This Amendment is in response to the Office action mailed on April 1, 2009. A petition for three month extension of time, to and including October 1, 2009, is attached. In the event any additional fees are due, kindly charge the cost thereof to our Deposit Account No. 13-2855.

Status of the Claims

Claims 25-33 and 38-45 are pending in the application, with new claims 38-45 introduced. Claims 25 and 33 are amended. The Office action rejected claims 25-27, 31 and 33 under 35 U.S.C. § 102(b) as allegedly being anticipated by Ilbery et al. The Applicant respectfully submits that with the amendments presently made to claim 25 and claim 33, all claims are allowable at least by virtue of dependency. New dependent claims 38 to 45 have also been added to still further clarify the scope of the invention; claims 38 to 41 are made dependent upon claim 25, while claims 42 to 45 are made dependent upon claim 33. Argumentation in favor of the patentability of the new dependent claims is also presented herewith in an effort to expedite prosecution of the application.

Basis for the amendments made to claims 25 and 33 may be found at page 1, lines 22 to 26 of the PCT application as filed.

Basis for claims 38 and 42 may be found throughout the specification as filed, in particular at page 10, lines 21 to 25, where it is made clear that there.

Basis for claims 39 and 43 may be found in claim 1 of the PCT application as filed.

Basis for claims 40 and 44 may be found in claim 3 of the PCT application as filed.

Basis for claims 41 and 45 may be found in claim 4 of the PCT application as filed.

Therefore, it is respectfully submitted that no new matter has been added by way of the amendments to claims 25 and 33 or by way of the introduction of claims 38-45.

Response to Rejections

The Applicant respectfully requests that, in any further communication, the Office action clearly specify exactly which features of Ilbery et al. are considered to be, respectively, "print data pixels", "super pixels", and "print pixels". The relationship between these features in the

claims is complex and in order for the Applicant to fully understand the argument for anticipation, it is necessary to be aware of what features in Ilbery are considered to correspond to each of the claimed features, and particularly those features listed above.

Turning firstly to Claim 25, that claim has been amended to recite an array of contiguous print data pixels, where this array comprises a plurality of parallel rows of contiguous print data pixels. In an entirely non-limiting example of a practical application, this array might be embodied as a two-dimensional image. The claim further requires that each of these print data pixels contributes print data to the calculation of print levels for at least two super pixels.

Looking to Ilbery et al., particularly the embodiment illustrated in Figure 12, a pixel grid 1104 is intended to be fully covered by dots 1102, so as to form a representation of image data; one of the nozzles is, however, defective. The document therefore proposes a method to print the data without producing an easily noticeable defect. The pattern 1106 is thus produced. It might therefore be considered that this embodiment involves “printing a representation on a print medium of an array of contiguous print data pixels comprising a plurality of parallel rows of contiguous print data pixels”, where the pattern 1106 is the “representation”.

In order to reduce the impact of the defective nozzle, the nozzle firing data for an unprintable column is distributed to the two adjacent nozzles so that additional pixel dots 1110 may be produced by those nozzles (as discussed at [0081]). However, it will be apparent this only occurs for the particular data corresponding to the unprintable column – the remaining data is not affected.

By contrast, as noted above, the claim requires that each print data pixel contributes print data to the calculation of print levels for at least two super pixels. Thus, whatever features might be considered “super pixels” within Ilbery et al., because distribution of data occurs only for a small number of data pixels according to that reference, Ilbery et al. cannot anticipate the invention of Claim 25.

This distribution of image data is carried out for each print data pixel in the method according to the Applicant’s claims as this ensures that every data pixel is therefore represented in the pattern by at least two super pixels. Hence, if one of those super pixels should fail to be printed, that data will still be represented in part by the other corresponding super pixels.

Essentially, the distribution of data is precautionary, so the method will inherently compensate for errors, such as a blocked nozzle, that occur during printing. The method therefore does not require information as to which nozzle has failed so as to do this, although in certain embodiments such information may be used to still further improve the compensation for errors.

By contrast, Ilbery et al. concerns a system based on the premise that information is available as to which nozzles are defective. It therefore is essentially reactive, rather than proactive in how it deals with errors such as defective nozzles. Thus, if a nozzle were to become defective during printing, Ilbery et al. could not act to compensate for the error until it was provided with information concerning which nozzle was defective. For at least these reasons, Ilbery et al. does neither teach nor suggest the invention of Claim 25, and it is therefore respectfully submitted that claim 25, as amended, is patentable.

Similarly, with regards to Claim 33, Ilbery et al. fails to teach or suggest a “print processor” as claimed as, it is required that “each print data pixel contributes print data to the calculation of print levels for at least two super pixels” and for the reasons given with respect to Claim 25, Ilbery et al. can neither teach nor suggest such a feature. For at least this reason it is respectfully submitted that Claim 33, as amended, is patentable.

Turning now to Claim 38, this claim further requires that the total number of super pixels is N times the number of print pixels. This feature acts in conjunction with the previous requirement that each print pixel receives a print contribution from N super pixels. This combination of features ensures redundancy in the print operation in so far as there is always an excess of super pixels contributing print to the print pixels. Thus, if an unexpected error occurs, there will remain sufficient super pixels to compensate for the error.

As noted above, Ilbery et al. teaches that additional pixel dots are only formed in response to a defective nozzle. Thus, regardless of what elements might be considered “super pixels” within the document, it can neither teach nor suggest the precautionary action of a number of super pixels that is N times the number of print pixels. For at least these reasons, it is respectfully submitted that Claim 38 is patentable.

Claim 42 sets out a similar requirement with regard to the printer recited in claim 33 and it is therefore submitted that claim 42 is patentable at least for similar reasons to claim 38.

Claim 39 recites the further requirement that the data for each row of print data pixels is distributed over a group of N superimposed rows of contiguous super pixels. Therefore, such a group of N superimposed rows of contiguous super pixels should be shown for each row of print data pixels. It is considered, however, that Ilbery et al. does not disclose even one such group of N superimposed rows of super pixels, let alone one group for each row of print data pixels. For at least this reason, it is submitted that claim 39 is patentable and for similar reasons, that claim 43 is patentable.

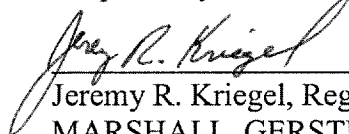
Further, as Ilbery et al. is silent with regard to such groups of superimposed rows of super pixels it can neither teach nor suggest the subject matter of claims 40-41 and claims 44-45. For at least this reason these claims are patentable.

The remaining pending claims in the application are respectfully submitted to be allowable at least by virtue of dependency on an allowable base claim.

The Examiner's reconsideration and favorable action are respectfully solicited.

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Respectfully submitted,



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